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PATENT SPECIFICATION

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COMPLETE SPECIFICATION

Decorative Plastic Extrusion

I, ANTHONY CESAR ANSELM, a British subject, of Albany Cottage, Oatlands Chase, Weybridge, Surrey, do hereby declare the invention, for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:—

The present invention relates to a plastic extrusion comprising a transparent or translucent plastic material within which is embedded a metal foil or layer, the metal foil or layer being visible through the extrusion to produce a decorative effect. The extrusions thus produced may be used as edge trimmings on motor-car bodies, as filler strips in rubber surrounds for motor car or other windows, and for other purposes for which, for example, chromium plated strips may be normally used. That face of the extrusion through which the metal foil or layer is intended to be viewed when the decorative extrusion is in use is herein referred to as the "front face."

If a foil of aluminium or other tarnishable or corrodible metal is fed as an insert in the extruded plastic, I have found that after a short period of use the metal foil often becomes tarnished or corroded. I believe this may be due to air being occluded in the extrusion, or to dampness entering between the metal foil and the plastic.

The present invention has for its object to provide an improved decorative extrusion of the kind above referred to in which tarn-

ishing or corrosion of the metal layer is reduced or eliminated.

To this end, according to the invention, the metal layer is applied in close surface contact on the surface of a strip of transparent or translucent plastic foil which is embedded in the extrusion with the plastic foil facing the front face of the extrusion, whereby that surface of the metal layer which is applied against the foil is seen through the front face of the extrusion, said plastic foil having retained its foil form and not having broken down under the heating to which it has been submitted during extrusion.

By applying the metal layer in close surface contact with the plastic foil, the surface of the metal layer which is seen through the front face of the extrusion is protected from air or moisture, whereby tarnishing and corrosion of this surface is reduced. Preferably the metal layer is laminated between two strips of plastic foil so that both surfaces of the metal layer are protected.

The metal layer may comprise a strip of metal foil, or may be formed by spraying or vacuum-depositing a metal coating on to the surface of foil.

In the preferred method of making the decorative plastic extrusion, the metal foil or layer is first laminated under pressure between two layers of transparent or translucent plastic foil so that the laminae of plastic become closely pressed against the metal, the laminate then being fed as an

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insert into the plastic material as it is extruded with any desired cross-section, said plastic foil being such that it will not break down under the heating to which it is submitted during extrusion.

The invention also consists in the method of making a plastic extrusion comprising a transparent or translucent plastic material within which is embedded a layer of a tarnishable or corrodible metal so as to be visible through a front face of the extrusion to produce a decorative effect, which consists in spraying or vacuum-depositing a coating of the metal on to the surface of a plastic foil, which is in the form of a strip or is cut into a strip after coating, and feeding the coated plastic foil strip as an insert into the plastic material as it is extruded with any desired cross-section, and with the plastic foil facing the front face of the extrusion, said plastic foil being such that it will not break down under the heating to which it is submitted during extrusion.

In one method of carrying the invention into effect, a metal foil of a tarnishable or corrodible metal such as aluminium foil, which may be in strip or sheet form, is positioned between two foils of transparent polyvinyl chloride, "Terylene," (Registered Trade Mark) "Melinex" (Registered Trade Mark), "Larex" (Registered Trade Mark), "Mylar" (Registered Trade Mark) or other plastic which are laminated on to the metal foil by the application of heat and pressure. If a sheet of aluminium foil is thus laminated, it may be cut to form strips for insertion in the extrusion.

The metal foil may be about .0005" thick and the plastic foils may be about .001" thick so that the laminated foil may be about 2½ thousandths of an inch in thickness. The plastic foil used must be such that it will not break down under the heating to which it is submitted during the subsequent extrusion.

The strip of laminated foil is fed through the nozzle of a plastic extrusion machine through which, for example, transparent polyvinyl chloride is extruded so that the laminated strip will be embedded in the extrusion. The extrusion may be of any desired cross-section (for example triangular for a filler strip), the laminated strip being preferably disposed just below the surface of the front face of the extrusion.

For forming an edge trimming, the extrusion with the laminated foil insert may be in the form of a tape which may subsequently be folded into a U-shaped cross-section for embracing the edge to be trimmed.

When the laminated strips are produced by slitting a laminated sheet, the edge of the metal foil is exposed along the cut edge, but tests appear to indicate that this exposure does not provide a space where tarnishing and corrosion of the metal can begin. How-

ever, if it be desired entirely to enclose the foil the laminate may be produced by arranging metal foil strips between the two plastic foils with slight spaces between adjacent strips, the sheet being slit approximately midway along these spaces, so that the edges of the metal strips will be enclosed.

Whilst a particular embodiment has been described, it will be understood that various modifications may be made without departing from the scope of the invention. Instead of metal foil, the metal layer may be produced by spraying or vacuum-depositing a metal coating on to the surface of one of the plastic foils and then laminating the second plastic foil thereover. The metal coating may be applied in a pattern, such as strips, so that when the laminated sheet is slit, it can be slit between the metal coated areas.

The surface of the metal may be in its natural colour or may be coloured, or a coloured effect may be produced by using an appropriately coloured translucent plastic for the laminate layers or the extrusion.

In another method of making the decorative plastic extrusion, a coating of the metal is sprayed or vacuum-deposited on to the surface of a plastic foil, and the coated foil is fed as an insert into the plastic material as it is extruded with any desired cross-section. The metal coating may be applied on strips of plastic foil or on a sheet of plastic foil which may be cut in strips as above described.

WHAT I CLAIM IS:—

1. A plastic extrusion comprising a transparent or translucent plastic material within which is embedded a layer of a tarnishable or corrodible metal so as to be visible through a front face of the extrusion, wherein the metal layer is applied in close surface contact on the surface of a strip of transparent or translucent plastic foil which is embedded in the extrusion with the plastic foil facing the front face of the extrusion, whereby that surface of the metal layer which is applied against the foil is seen through the front face of the extrusion, said plastic foil having retained its foil form and not having broken down under the heating to which it has been submitted during extrusion.

2. A plastic extrusion comprising a transparent or translucent plastic material having embedded therein a laminated strip comprising a metal foil or layer of a tarnishable or corrodible metal having layers of transparent or translucent plastic laminated on to opposite sides thereof, said plastic foil having retained its foil form and not having broken down under the heating to which it has been submitted during extrusion.

3. The method of making a plastic extrusion comprising a transparent or translucent plastic material within which is embedded a metal foil or layer of a tarnishable or corrod-

ible metal, which consists in first laminating the metal foil or layer under pressure between two layers of transparent or translucent plastic foil so that the laminae become closely pressed against the metal, and then feeding the laminate as an insert into the transparent or translucent plastic material as it is extruded with any desired cross-section, said plastic foil being such that it will not break down under the heating to which it is submitted during extrusion.

4. The method as claimed in claim 3 which consists in positioning a sheet of the metal foil between two sheets of transparent or translucent plastic foil, laminating said plastic foils and the metal foil together by the application of heat and pressure, cutting the laminated sheet into strips, and feeding a strip as an insert into the extruding plastic material.

5. The method as claimed in claim 3, which consists in positioning strips of the metal foil side-by-side between two sheets of transparent or translucent plastic foil with the edges of said strips spaced apart, laminating said plastic foils and the strips of metal foil together by the application of heat and pressure, cutting the laminated sheet between the strips of metal foil to form laminated strips, and feeding a laminated strip as an insert into the extruding plastic material.

6. The method as claimed in claim 3, which consists in producing a coating of the metal on the surface of a plastic foil, and laminating a second plastic foil over the metal coating to form the laminate.

7. The method of making a plastic extrusion comprising a transparent or translucent plastic material within which is embedded a

layer of a tarnishable or corrodible metal so as to be visible through a front face of the extrusion to produce a decorative effect, which consists in spraying or vacuum-depositing a coating of the metal on to the surface of a plastic foil, which is in the form of a strip or is cut into a strip after coating, and feeding the coated plastic foil strip as an insert into the plastic material as it is extruded with any desired cross-section, and with the plastic foil facing the front face of the extrusion, said plastic foil being such that it will not break down under the heating to which it is submitted during extrusion.

8. The method as claimed in claim 7, which further consists in laminating a second plastic foil on to the coated surface of said coated plastic foil so that the plastic foils become firmly pressed together with the metal coating therebetween, and feeding said laminated foil as an insert into the extruding plastic material.

9. The method claimed in any one of claims 3 to 8, wherein the metal foil or layer is of aluminium.

10. The methods of making a plastic extrusion comprising a transparent or translucent plastic material within which is embedded a foil or layer of a tarnishable or corrodible metal, substantially as hereinbefore described.

11. A decorative plastic extrusion when prepared by the method claimed in any one of claims 3 to 10.

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PROVISIONAL SPECIFICATION

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If metal foil is fed as an insert in the extruded plastic, I have found that after a short period of use the foil often becomes tarnished or corroded. I believe this may be due to air being occluded in the extrusion,

or to dampness entering between the foil and the plastic.

The present invention has for its object to overcome this disadvantage, and to this end the metal foil or layer is first laminated under pressure between two layers of transparent or translucent plastic so that the laminae of plastic become intimately pressed against the metal and all air is excluded, the laminate then being fed as an insert into the plastic material as it is extruded with any desired cross-section.

In one method of carrying the invention into effect, metal foil, such as aluminium foil, which may be in the strip or sheet form, is positioned between two foils of transparent polyvinyl chloride which are laminated on to the metal foil by the application of heat and pressure. If a sheet of aluminium foil is thus laminated, it may be cut to form strips for insertion in the extrusion.

The strip of laminated foil is fed through the nozzle of a plastic extrusion machine through which transparent polyvinyl chloride is extruded so that the laminated strip will be embedded in the extrusion. The extrusion may be of any desired cross-section (for example triangular for a filler strip), the laminated strip being preferably disposed just below that surface of the extrusion which will be exposed and has to provide the decorative effect when the extrusion is in use.

For forming an edge trimming, the extrusion with the laminated foil insert may be in the form of a tape which may subsequently be folded into a U-shaped cross-section for embracing the edge to be trimmed.

When the laminated strips are produced by slitting a laminated sheet, the edge of the metal foil is exposed along the cut edge, but tests appear to indicate that this exposure does not provide a space where tarnishing and corrosion of the metal can begin. However, if it be desired to entirely enclose the foil, the laminate may be produced by arranging metal foil strips between the two plastic

foils with slight spaces between adjacent strips, the sheet being slit approximately midway along these spaces, so that the edges of the metal strips will be also enclosed.

Whilst a particular embodiment has been described, it will be understood that various modifications may be made without departing from the scope of the invention. Instead of metal foil, the metal layer may be produced by spraying or vacuum-depositing a metal coating on to the surface of one of the plastic foils and then laminating the second plastic foil thereover. The metal coating may be applied in a pattern, such as strips, so that when the laminated sheet is slit, it can be slit between the metal coated areas.

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